

REMARKS

In the Office Action mailed on June 8, 2006, claims 1-2, 8, 12, 14, 15, 26 and 33-34 have been rejected as obvious under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 5,758,465 (“the ‘465 patent”) in view of U.S. Patent No. 4,543,763 (“the ‘763 patent”). Claims 31-32 and 35 have been rejected under 35 U.S.C. §103(a) as obvious over the ‘465 patent in view of the ‘763 patent, in further view of U.S. Patent No. 6,677,185 (“the ‘185 patent”).

The rejections of claims 14-15, 31-32 and 35 are traversed for the reasons set forth below.

A. THE ‘763 PATENT FAILS TO TEACH THE REQUIRED ANTI-ROTATION ELEMENTS OF CLAIM 1

Claim 1 has been amended to include the limitations of claims 14 and 15 (in the alternative), and as amended requires the anti-rotation elements to have one of a hemisphered shape or a hollow truncated cone shape. The ‘763 patent fails to teach these shapes, but instead teaches a sharply pointed projection 22. The Office Action admits these claimed requirements are not disclosed, but suggests that this represents only an obvious variation in shape. It is submitted that this is incorrect.

It is submitted that the ‘763 patent requires the sharply pointed projections 22 at least partly due to the very different purpose that the device of the ‘763 patent serves from the invention of claim 1. The ‘763 patent teaches a penetration controlling device useful to thread a hole in masonry: “As the anchor 10 advances into the structure 1, threads 2 are formed ...” Col. 2, lines 8-11. At least one of its intended purposes is to

control the rate of axial penetration of a threaded masonry anchor and to prevent stripping: "...the function of the plate 20 is to control the rate of axial penetration of the anchor," Col. 4, lines 27-28; "...a workman can control the rate of axial penetration of the anchor and preclude stripping of threads formed in the masonry structure." Col. 1, lines 47-49.

Because of these intended purposes, driving torques acting on the plate 20 can be very significant: "... the plate 20 resists rotation of the anchor and stresses on the threads 2 which have been formed in the structure are, therefore, greatly reduced. This is important because, in some cases, significant driving torques will be required to drive the anchor into a structure." Col. 2, lines 53-56. The plate 20 relies on the projections 22 to counteract this significant driving torque. Col. 2, lines 7-8. It is submitted that the sharply pointed projections 22 disclosed are suitable for this intended purpose, while the structure claimed by claim 1 (generally hemisphered shape or generally hollow truncated cones, each of which lack a sharply pointed end) may not be.

This conclusion is supported by the Declaration of Richard Ernst, who is not only the inventor of the present invention but also an inventor of the '763 patent. Ernst Declaration, Paras. 2-3. Mr. Ernst states that the anti-rotation element shapes claimed by claim 1 are not suitable for use with the penetration control device of the '763 patent, and that replacement of the sharply pointed projections of the '763 patent with the claimed shapes of claim 1 would risk failure of the device of the '763 patent. Id., Para. 4.

It is noted, however, that the claimed anti-rotation element shapes of claim 1 are suitable for the invention of claim 1. This invention embodiment is directed to a

rod hanger for attachment with a fastener to a ceiling and is therefore not expected to experience the significant driving torques that the masonry anchor of the '763 patent may be subjected to.

Because modification of the projections 22 of the '763 patent required by claim 1 could cause the device of the '763 patent to fail its intended purpose, the obviousness rejection of amended claim 1 (and those depending therefrom) is improper and must be withdrawn: "(i)f the proposed modification would render the prior art invention ... unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP §2143.01(V).

B. CLAIMS 31-32 AND 35 ARE ALLOWABLE

Claims 31-32 and 35 have been rejected over the '465 patent in view of the '763 patent and in further view of the '185 patent. Claim 31 has been cancelled and rewritten in independent form as new claim 36. Claim 32 has been amended to depend from new claim 31. Rejection of claims 31 (rewritten as new claim 36) - 32 and 35 is traversed for the reasons set forth below.

B.(1) THE '185 PATENT FAILS TO DISCLOSE THE REQUIREMENTS OF CLAIMS 32 AND 35.

Claim 32 requires a resilient cover formed of a polymer extending fully over the anti-rotation elements and which is secured to the anti-rotation elements by one of a chemical adhesive or thermoforming. Claim 35 has been amended to include this

same limitation. Each of these claims therefore requires either a chemical adhesive or thermoforming to secure a resilient polymer cover to the anti-rotation elements. The '185 patent fails to disclose this.

Instead, the '185 patent only discloses covering dimples 31 with an adhesive: "...dipping the dimples 31 ... into the adhesive layer 42 so as to adhere some adhesive agent 42 on to the dimples 31.." Col. 3, lines 21-24. The '185 patent fails to disclose an adhesive that holds a *separate* polymer cover on its dimples, or (in the alternative) *thermoforming* a polymer cover over its dimples. Although an epoxy resin is applied to the sink 3, this is done after the dimples 31 dipped in adhesive 42 have been attached to the substrate 1. The dimples 31 are therefore not exposed to the epoxy resin, and it does not cover the dimples 31. The '185 patent therefore cannot properly support an obviousness rejection of claims 32 and 35.

B.(2) THE '185 PATENT TEACHES AWAY FROM THE REQUIRED ANTI-ROTATION ELEMENTS

Putting aside the above shortcomings of the '185 patent for the moment, it is further submitted that the reference teaches away from the required anti-rotation elements of claims 32, 35 and 36. The '185 patent, titled "Method of Affixing a Heat Sink to a Substrate and Package Thereof," discloses a method of affixing a heat sink to an electronics substrate useful for dissipating heat from a semiconductor chip. The disclosed four dimples 31 on the base of the electronics heat sink are not "anti-rotation elements configured for engaging and penetrating the substrate ... and for counteracting a moment acting upon said rod hanger as the rod is threadably received by said rod

receiving portion” as is required by each of claims 32, 35 and 36. For example, the dimples 31 of the ‘185 patent do not penetratingly engage the substrate and are not configured to counteract a moment acting upon a rod hanger as a rod is threadably received.

It is further submitted that the ‘185 patent teaches away from penetrating engagement since (as best understood) the dimples 31 are configured to rest on the surface of the substrate 1. The dimples 31 appear to create a space between the sink 3 and substrate 1. As best understood, this space may be desirable in dissipating heat from the semiconductor chip 2 (e.g., to allow air flow into the sink 3 interior) and to avoid transferring heat from the sink 3 to the substrate 1. It is known in the micro-electronics arts that excessive heating of substrates can result in cracking, delamination and other disadvantageous effects.

Accordingly, the ‘185 patent teaches away from penetrating engagement of the dimples 31 in the substrate 1. Further, penetrating engagement of the dimples 31 may render the sink 3 unsatisfactory for its intended purpose, since as best understood this could lead to an undesirable increased transfer of heat to the substrate 1. It is well established that: “(i)f the proposed modification would render the prior art invention ... unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” MPEP §2143.01(V). The dimples 31 are also not configured for counteracting a moment acting upon a rod hanger as a rod is threadably received (i.e., a rotational moment) as is required by claims 32, 35 and 36.

B.(3) THERE IS NO MOTIVATION TO COMBINE THE CITED PATENTS

There must be some suggestion or motivation disclosed in the references or in the commonly known art to combine the cited references to support an obviousness rejection. MPEP §2143.01. It is submitted that the obviousness rejection of claims 32, 35 and 36 (previously claim 31) is improper because there is no motivation to combine the cited references with one another. Citing these unrelated references in combination improperly views the prior art only with the benefit of hindsight gained after considering the claimed invention.

The '763 patent teaches a masonry anchor useful to thread a hole in masonry. The '465 patent teaches a device for securing a rod to a ceiling. Accepting only for the sake of argument that some motivation can be found for combining these unrelated references, no motivation can be found for combining them with the significantly different '185 patent cited to reject claims 32, 35 and 36.

The '185 patent is titled "Method of Affixing a Heat Sink to a Substrate and Package Thereof" and teaches a method of affixing a heat sink to a micro-electronics substrate useful to dissipate heat from a semiconductor chip. It relates to the assembly of heat sinks in the micro-electronics or related arts. It is completely unrelated to masonry anchors (the '763 patent) and overhead fasteners (the '465 patent). One skilled in either of the arts of the '763 and '465 patents would not look to a method for affixing a heat sink to a micro-electronics substrate, nor could he find any motivation to combine the different teachings.

This conclusion is supported by the testimony of Mr. Ernst, who is skilled in the art of the present invention. Mr. Ernst states that the '185 patent is unrelated to the arts of the '763 and '465 patents, and to the art of the present invention. Ernst Declaration, paras. 5-6.


C. CONCLUSION

It is submitted that independent claims 1, 35 and 36 (as well as all claims depending thereon) in their current form are allowable over the cited prior art. All correspondence should continue to be directed to Applicant's primary attorney Ms. Lisa Soltis at the correspondence address of record.

Respectfully submitted,

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